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Application No.: 10/535,035

Docket No.: JCLA12543-R

AMENDMENTIn The Claims:

Please amend the claims as follows:

Claim 1. (currently amended) An electrodeionization apparatus, comprising:

a plurality of anion exchange membranes and a plurality of cation exchange membranes that are alternately arranged between a cathode and an anode ~~to alternately form at least one concentrating compartment and at least one desalting compartment, the anion exchange membranes and the cation exchange membranes configuring a plurality of concentrating compartments and a plurality of desalting compartments alternately arranged,~~ wherein

~~the concentrating compartments and the desalting compartments are filled with mixed ion exchangers, and a filling ratio of anion exchanger to cation exchanger of the mixed ion exchanger in the concentrating compartments is higher than a filling ratio of anion exchanger to cation exchanger of the mixed ion exchanger in the desalting compartments~~

the concentrating compartments are filled with first ion exchangers, the first ion exchangers being composed of a mixture mixed by anion exchangers and cation ion exchangers with a first ratio of anion exchangers to cation ion exchangers;

the desalting compartments are filled with second ion exchangers, the second ion exchangers being composed of a mixture mixed by anion exchangers and cation ion exchangers with a second ratio of anion exchangers to cation ion exchangers,

wherein the first ratio is higher than the second ratio.

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Claim 2. (original) The electrodeionization apparatus according to claim 1, which comprises a plurality of concentrating compartments and a plurality of desalting compartments, wherein the filling ratio of anion exchanger to cation exchanger of the ion exchanger in the concentrating compartments ranges from 75/25 to 95/5.

Claim 3. (previously presented) The electrodeionization apparatus according to claim 1, wherein the ion exchanger in the concentrating compartment comprises a mixed ion exchange resin comprising an anion exchange resin and a cation exchange resin, wherein a crosslinking degree of the anion exchange resin is 3-8%, and a crosslinking degree of the cation exchange resin is 5-10%.

Claim 4. (previously presented) The electrodeionization apparatus according to claim 1, wherein a ratio of a water introduction rate (L/h) into the desalting compartment to an effective area (dm^2) of the anion exchange membrane in the desalting compartment is 5 or higher.

Claim 5. (previously presented) The electrodeionization apparatus according to claim 1, which satisfies at least one of the following two conditions (1) and (2):

(1) a ratio of a carbonate loading ($\text{mg-CO}_2/\text{h}$) into the desalting compartment to an effective area (dm^2) of the anion exchange membrane in the desalting compartment being 80 or higher; and

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(2) a ratio of a silica loading (mg-SiO₂/h) into the desalting compartment to an effective area (dm²) of the anion exchange membrane in the desalting compartment being 8 or higher.

Claim 6. (previously presented) The electrodeionization apparatus according to claim 1, wherein a current density of 300mA/dm² or higher is applied.

Claim 7. (previously presented) The electrodeionization apparatus according to claim 1, wherein the concentrating compartment is filled with an anion exchange resin that comprises a thermostable anion exchange resin.

Claim 8. (new) The electrodeionization apparatus according to claim 1, wherein each of the concentrating compartments is sandwiched by two adjacent desalting compartments.